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<110> RIEBEL, Bettina
HUMMEL, Werner
BOMMARIUS, Andreas

<120> RECOMBINANT ENZYMES HAVING IMPROVED NAD(H) ACCEPTANCE

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<140> 09/910,033
<141> 2001-07-23

<150> DE 10037101.9
<151> 2000-07-27

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<170> PatentIn version 3.1

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ttg ggt atc ggt tta gct atc gcc acg aag ttc gtt gaa gaa ggg gct        96
Leu Gly Ile Gly Leu Ala Ile Ala Thr Lys Phe Val Glu Glu Gly Ala
                20                  25                  30

aag gtc atg att acc gac cgg cac agc gat gtt ggt gaa aaa gca gct       144
Lys Val Met Ile Thr Asp Arg His Ser Asp Val Gly Glu Lys Ala Ala
            35                  40                  45

aag agt gtc ggc act cct gat cag att caa ttt ttc caa cat gat tct       192
Lys Ser Val Gly Thr Pro Asp Gln Ile Gln Phe Phe Gln His Asp Ser
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tcc gat gaa gac ggc tgg acg aaa tta ttc gat gca acg gaa aaa gcc       240
Ser Asp Glu Asp Gly Trp Thr Lys Leu Phe Asp Ala Thr Glu Lys Ala
65                  70                  75                  80

ttt ggc cca gtt tct aca tta gtt aat aac gct ggg atc gcg gtt aac       288
Phe Gly Pro Val Ser Thr Leu Val Asn Asn Ala Gly Ile Ala Val Asn
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Val Asn Leu Asp Gly Val Phe Phe Gly Thr Arg Leu Gly Ile Gln Arg
            115             120             125

atg aag aac aaa ggc tta ggg gct tcc atc atc aac atg tct tcg atc      432
Met Lys Asn Lys Gly Leu Gly Ala Ser Ile Ile Asn Met Ser Ser Ile
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gaa ggc ttt gtg ggt gat cct agc tta ggg gct tac aac gca tct aaa      480
Glu Gly Phe Val Gly Asp Pro Ser Leu Gly Ala Tyr Asn Ala Ser Lys
145             150             155             160

ggg gcc gta cgg att atg tcc aag tca gct gcc tta gat tgt gcc cta      528
Gly Ala Val Arg Ile Met Ser Lys Ser Ala Ala Leu Asp Cys Ala Leu
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aag gac tac gat gtt cgg gta aac act gtt cac cct ggc tac atc aag      576
Lys Asp Tyr Asp Val Arg Val Asn Thr Val His Pro Gly Tyr Ile Lys
            180             185             190

aca cca ttg gtt gat gac cta cca ggg gcc gaa gaa gcg atg tca caa      624
Thr Pro Leu Val Asp Asp Leu Pro Gly Ala Glu Glu Ala Met Ser Gln
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cgg acc aag acg cca atg ggc cat atc ggt gaa cct aac gat att gcc      672
Arg Thr Lys Thr Pro Met Gly His Ile Gly Glu Pro Asn Asp Ile Ala
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Tyr Ile Cys Val Tyr Leu Ala Ser Asn Glu Ser Lys Phe Ala Thr Gly
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Lys Val Met Ile Thr Asp Arg His Ser Asp Val Gly Glu Lys Ala Ala
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Lys Ser Val Gly Thr Pro Asp Gln Ile Gln Phe Phe Gln His Asp Ser
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Ser Asp Glu Asp Gly Trp Thr Lys Leu Phe Asp Ala Thr Glu Lys Ala
65              70              75              80

Phe Gly Pro Val Ser Thr Leu Val Asn Asn Ala Gly Ile Ala Val Asn
                85              90              95

Lys Ser Val Glu Glu Thr Thr Thr Ala Glu Trp Arg Lys Leu Leu Ala
            100             105             110

Val Asn Leu Asp Gly Val Phe Phe Gly Thr Arg Leu Gly Ile Gln Arg
        115             120             125

Met Lys Asn Lys Gly Leu Gly Ala Ser Ile Ile Asn Met Ser Ser Ile
    130             135             140

Glu Gly Phe Val Gly Asp Pro Ser Leu Gly Ala Tyr Asn Ala Ser Lys
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Gly Ala Val Arg Ile Met Ser Lys Ser Ala Ala Leu Asp Cys Ala Leu
            165             170             175

Lys Asp Tyr Asp Val Arg Val Asn Thr Val His Pro Gly Tyr Ile Lys
            180             185             190

Thr Pro Leu Val Asp Asp Leu Pro Gly Ala Glu Glu Ala Met Ser Gln
    195             200             205

Arg Thr Lys Thr Pro Met Gly His Ile Gly Glu Pro Asn Asp Ile Ala
    210             215             220

Tyr Ile Cys Val Tyr Leu Ala Ser Asn Glu Ser Lys Phe Ala Thr Gly
225             230             235             240

Ser Glu Phe Val Val Asp Gly Gly Tyr Thr Ala Gln
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